

PRODUCT SCANNING AND ACCOUNTING DEVICE

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PRODUCT SCANNING AND ACCOUNTING DEVICE
[Warenerfassungs- und Abrechnungseinrichtung]

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Grantee:	Siemens Nixdorf Informationssysteme AG

Publications taken into account to determine patentability:
LST 3808 – Portable Personal Shopper, Company Brochure, Symbol Technologies Inc. 1994

Description

The invention pertains to a product scanner and accounting device with a loading unit in which a number of portable product data acquisition units are held ready for removal by a customer, wherein the product data acquisition unit is composed of a reader for bar code markings, a memory for scanned bar code markings, a display unit and at least one input key, and the loading unit has a data processing unit, a video display, a receipt printer and a holding device for each product data acquisition unit with a data connection through which product data stored in the memory can be read out and sent to the data processing unit.

A device of the stated type is known from company brochure ZF-GE 5/94 "LST 3803 – Portable Personal Shopper" by Symbol Technologies Co. Inc., 116 Wilbur Place, Bohemia, New York 11716. Accordingly, a customer who enters a department store receives a customer card. With this card the customer interfaces with the loading unit in the "Portable Shopping System" by means of a magnetic strip reader, which subsequently enables a bar code reader with data memory—the product data acquisition unit.

The customer uses the product data acquisition unit to read the bar code of each article selected for purchase as stored in a memory. As soon as the customer has completed his purchase, he places the product data-acquisition unit back into the loading unit, where a cashier receipt with the individually listed articles is automatically printed out. The customer now must go to the payment register with the cashier receipt where he will pay the amount indicated on the cashier receipt.

It may be that the undesirable wait in line by the customer in manned checkout stations will be avoided, but it is evident that customer lines might also form at the payment stations due to the greater number of customers paying at the now reduced number of payment stations.

Therefore it is the problem of the invention to propose a system of the described type in which the formation of customer lines at payment stations will be avoided.

The problem is solved by the characterizing portion of Claim 1.

The properties and advantages of the invention are indicated from the following description which explains the invention in greater detail in conjunction with the attached drawings that refer to one design embodiment.

We have:

Figure 1 A product scanner and accounting device shown in perspective view

Figure 2 The product scanner and accounting device in exploded representation

Figure 3 A first design embodiment of a product scanner and accounting device, presented in side view.

Figure 4 A second design embodiment of a product scanner and accounting device presented in side view.

Figure 1 presents a product scanner and accounting device indicated in general by reference number 10. It consists of a column 12 with a square-shaped lower part 14 and head part 16 with a convex bulged operating surface 17. The column 12 is supported by a base 13 having a relatively larger cross sectional surface area. A loading unit 18 for a number of product data acquisition units 20 is set upon the head part 16.

The roughly shelf-like loading unit 18 is equipped in the middle with a recess 22 that is surrounded roughly up to half its height by the head part 16 of the column 12. On both sides of the recess 22 there are side compartments 24 into which a retaining plate 26 is installed. This in turn, has a number of holders 28 for product data acquisition units 20, whose shape is adapted to that of the used product data acquisition units. The product data acquisition unit 20 is not the subject of the invention, and in principle any transportable product data acquisition unit can be used. The holders 28 are provided with detachable electromagnetic locks (not illustrated) that secure the product data acquisition units 20 against unauthorized use.

In the lower part 14 there is a personal computer 30 to which peripheral devices built into the head part 16 are connected—in this design example, a video display 32 with a touch-screen input surface, a receipt printer 34, a bar code reader 36 and a credit card reader 38.

The receipt printer 34 and the bar code reader 36 are located in a holding area 40 located underneath the video display 32, and this space passes below into a concave bulged receipt dish 44 that has an opening 42 on the front. The scanner beam of the bar code reader 36 is directed downward at a slant so that it is emitted from the opening 42.

Figure 3 shows a product scanner and accounting device 10' for unilateral operation in a cut-away, side view. It is evident that a bulged control panel 17 is located only on the front side of the column 12, while the back side 46 is flat, so that the product scanner and accounting device 10' can be set up against a wall. The retaining plate 26' can only hold product data acquisition units 20 on one side.

Figure 4 shows the product scanner and accounting device 10 in a cut-away side view, which is designed for two-side operation. On the front and back side of the column 12 there is a bulged control panel 17 so that the product scanner and accounting device 10 can be set up in an open space. The retaining plate 26 can hold product data acquisition units 20 on both sides.

The modular structure of the product scanner and accounting device 10 is particularly evident in Figure 2; it has the advantage that the column 12 can also be operated without the loading unit 18. Complete product scanner and accounting devices 10 can then be set up in the check in/out area of a department store, while the columns 12 used for customer information can be distributed throughout the sales area. On the other hand, any column 12 can be subsequently retrofitted with a loading unit 18.

Making a purchase in a store equipped with a product scanner and accounting device 10 or 10' according to this invention will proceed as follows: a customer enters the store and picks up a product data acquisition unit 20 from the loading unit 18. Using the product data acquisition unit 20 the customer reads the bar code of each article selected for purchase, which code is stored in a memory built into the product data acquisition unit 20. As soon as the customer completes his shopping, he inserts the product data acquisition unit 20 back into the loading unit 18 where the memory is automatically read out. The obtained product data will be displayed on the video display 32, together with the article description read out from the PLU memory and the associated price data. After touching a panel denoted on the video display 32 by the designation "Final billing," the final sum will be displayed. Now the customer will be prompted to specify the desired type of payment. Usually this will mean payment by credit card or debit card and the customer will be requested to input his card into the credit card reader so that the invoiced amount can be deducted. Next, a cashier receipt with the articles listed individually and the final amount of invoice will be printed out and an exit from the store will be released. If the customer

wants to pay by cash, a cashier receipt is printed but the exit is not released. In the known manner, the customer must take the cashier receipt to a payment station where the amount indicated on the receipt is to be paid.

By using the bar code reader 36 built into the column 12, a customer in a hurry or one deciding to make a spontaneous purchase will be allowed to buy articles without picking up a product data acquisition unit 20 upon entering the store. Rather, he can determine the product data directly from the product scanner and accounting device 10.

Claim

Product scanner and accounting device (10) with a loading unit (18) in which a number of portable product data acquisition units (20) are held ready for removal by a customer, wherein the product data acquisition unit (20) is composed of a reader for bar code markings and a memory for scanned bar code markings, the loading unit (12, 18) has a data processing unit (30), a video display (32), a receipt printer (34) and a holding device (26) for each product data acquisition unit (20) with a data connection through which product data stored in the memory can be read out and sent to the data processing unit (30), characterized in that the loading unit (12) includes an intake unit (38) for customer payments.

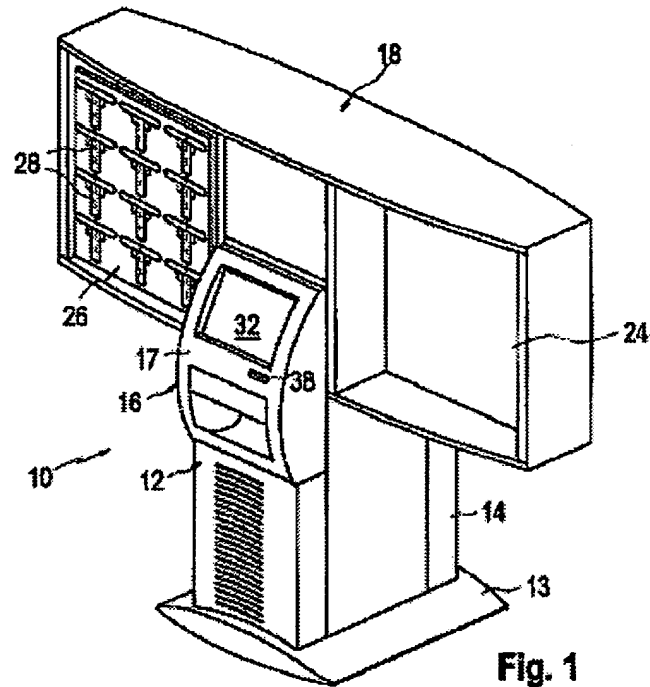


Fig. 1

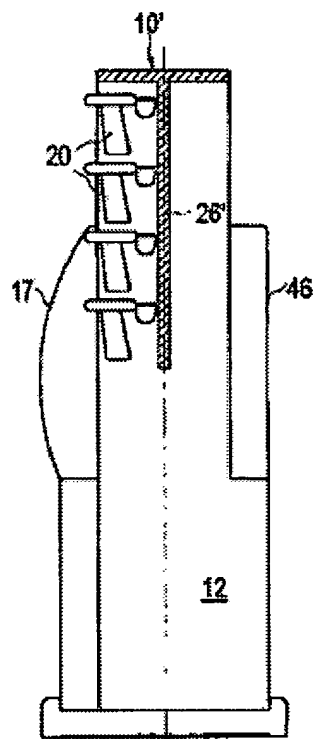


Fig. 3

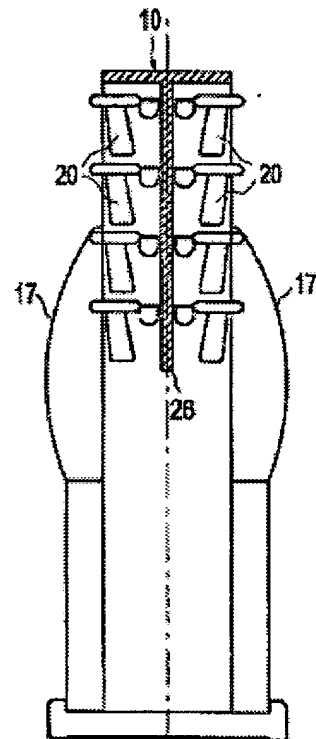
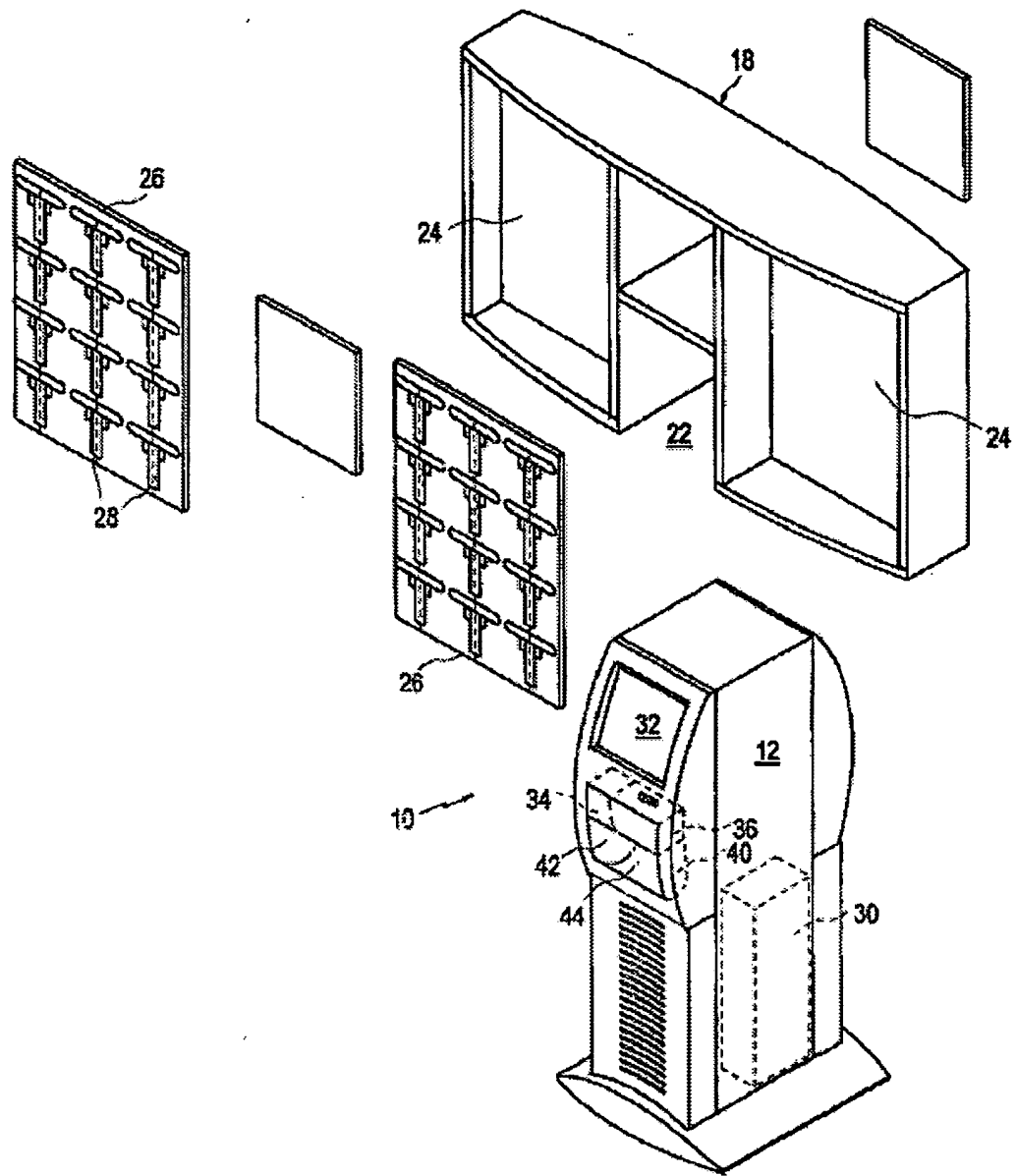


Fig. 4

**Fig. 2**